

Answer Key :MCA/CSA

Type: MCA/CSA

1) The time complexity of binary search is

Options:

- 1.O(n)
- 2.O(log n)
- 3.O(n log n)
- 4.O(1)

Correct Option: 2

Type: MCA/CSA

2) Which data structure uses FIFO principle?

Options:

- 1.Stack
- 2.Queue
- 3.Tree
- 4.Graph

Correct Option: 2

Type: MCA/CSA

3) The worst-case time complexity of Quick Sort is

Options:

- 1.O(n log n)
- 2.O(n²)
- 3.O(log n)
- 4.O(n)

Correct Option: 2

Type: MCA/CSA

4) Which of the following is not a relational algebra operation?

Options:

- 1.Select
- 2.Project
- 3.Join
- 4.Compile

Correct Option: 4

Type: MCA/CSA

5) In DBMS, a candidate key is

Options:

- 1.minimal superkey
- 2.primary key
- 3.foreign key
- 4.composite key

Correct Option: 1

Type: MCA/CSA

6) Which normal form removes partial dependency?

Options:

- 1.1NF
- 2.2NF
- 3.3NF
- 4.BCNF

Correct Option: 2

Type: MCA/CSA

7) Which layer in OSI model handles routing?

Options:

- 1.Transport
- 2.Network
- 3.Data Link
- 4.Session

Correct Option: 2

Type: MCA/CSA

8) The number of edges in a complete graph with n vertices is

Options:

- 1.n
- 2. n^2
- 3. $n(n-1)/2$
- 4. $n(n+1)/2$

Correct Option: 3

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9) Which traversal gives sorted order in BST?

Options:

- 1.Preorder
- 2.Postorder
- 3.Inorder
- 4.Level order

Correct Option: 3

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10) Which logic gate is universal?

Options:

- 1.AND
- 2.OR
- 3.NOT
- 4.NAND

Correct Option: 4

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11) The complement of $A + B$ is

Options:

- 1. $A' + B'$
- 2. $A'B'$
- 3.AB
- 4.A+B

Correct Option: 2

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12) Which protocol is used for reliable transmission?

Options:

- 1.UDP
- 2.TCP
- 3.IP
- 4.ARP

Correct Option: 2

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13) In OS, deadlock occurs when

Options:

- 1.mutual exclusion
- 2.hold and wait
- 3.no preemption
- 4.all of these

Correct Option: 4

Type: MCA/CSA

14) Paging eliminates

Options:

- 1.fragmentation
- 2.external fragmentation
- 3.internal fragmentation
- 4.swapping

Correct Option: 2

Type: MCA/CSA

15) The height of a balanced binary tree with n nodes is

Options:

- 1.O(n)

- 2.O(log n)
- 3.O(n log n)
- 4.O(1)

Correct Option: 2

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16) Which of the following is a non-linear data structure?

Options:

- 1.Array
- 2.Linked List
- 3.Tree
- 4.Stack

Correct Option: 3

Type: MCA/CSA

17) In compiler design, lexical analysis is performed by

Options:

- 1.parser
- 2.scanner
- 3.optimizer
- 4.code generator

Correct Option: 2

Type: MCA/CSA

18) The postfix of $(A+B)*C$ is

Options:

- 1.AB+C*
- 2.ABC+*
- 3.AB+C
- 4.A+B*C

Correct Option: 1

Type: MCA/CSA

19) Which normal form removes transitive dependency?

Options:

- 1.1NF
- 2.2NF
- 3.3NF
- 4.4NF

Correct Option: 3

Type: MCA/CSA

20) The number of flip-flops required for mod-16 counter is

Options:

- 1.2
- 2.3
- 3.4
- 4.5

Correct Option: 3

Type: MCA/CSA

21) In CNF, a clause is

Options:

- 1.AND of literals
- 2.OR of literals
- 3.NOT of literals
- 4.XOR of literals

Correct Option: 2

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22) Which scheduling algorithm may cause starvation?

Options:

- 1.FCFS
- 2.Round Robin
- 3.Priority Scheduling
- 4.SJF

Correct Option: 3

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23) Which algorithm is used for shortest path?

Options:

- 1.Prim's
- 2.Kruskal's
- 3.Dijkstra's
- 4.DFS

Correct Option: 3

Type: MCA/CSA

24) Which memory is volatile?

Options:

- 1.ROM
- 2.HDD
- 3.RAM
- 4.SSD

Correct Option: 3

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25) Which addressing mode uses operand directly?

Options:

- 1.Immediate
- 2.Direct
- 3.Indirect
- 4.Indexed

Correct Option: 1

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26) The complexity of BFS is

Options:

- 1. $O(V+E)$
- 2. $O(V^2)$
- 3. $O(E^2)$
- 4. $O(\log V)$

Correct Option: 1

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27) SQL command to remove table is

Options:

- 1.DELETE
- 2.DROP
- 3.REMOVE
- 4.CLEAR

Correct Option: 2

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28) Which layer ensures end-to-end communication?

Options:

- 1.Network
- 2.Data Link
- 3.Transport
- 4.Application

Correct Option: 3

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29) A deterministic finite automaton (DFA) has

Options:

- 1.one transition per symbol
- 2.multiple transitions
- 3.no transitions
- 4.epsilon transitions

Correct Option: 1

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30) Which sorting is stable?

Options:

- 1.Quick Sort
- 2.Heap Sort
- 3.Merge Sort
- 4.Selection Sort

Correct Option: 3